

Notice of Allowability

Application No.

10/681,009

Examiner

Nicholas A. Smith

Applicant(s)

SHIM ET AL.

Art Unit

1742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 21 July 2006.
2. ☒ The allowed claim(s) is/are 1-14.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see p. 2, paragraph 3, filed 7/21/2006, with respect to claims 1-14 have been fully considered and are persuasive. The rejection under 35 USC 103(a) over US Patent 3,785,801 of claims 1-14 has been withdrawn.

Allowable Subject Matter

2. Claims 1-14 are allowed.

3. The following is a statement of reasons for the indication of allowable subject matter: Claim 1 is a method of fabricating an ultra-fine TiC-base cermet alloy. Claim 1 includes the inventive step of forming a powder mixture from mixing titanium (Ti) powder, transition metal powder, carbon (C) powder, nickel (Ni) powder and cobalt (Co) powder. In prior art, such as Benjamin (US Patent 3,785,801), the method of fabricating a TiC-base cermet alloy includes using starting materials of TiC, not the claimed Ti powder and C powder. Upon reviewing TiC-base cermet alloy art, Examiner agrees that fabricating TiC-base cermet alloys is conventionally done by mixing starting materials of TiC; thus, mixing elemental powders is a patentable step in the method of fabricating an ultra-fine TiC-base cermet alloy. Claims 2-14 are dependent on claim 1 and are thus also allowable.

EXAMINER'S AMENDMENT

4. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided

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by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

5. The application has been amended as follows:

Claim 1. (Amended) A fabrication method of an ultra-fine TiC-base cermet alloy with a homogenous solid solution grain structure comprising the steps of:

forming powder mixture of TiC 50-90wt% (weight percentage), TM_xCy (where x and y are integers) 5-30wt% and Ni or Co or a mixture of Ni and Co 5-30wt% from mixing titanium (Ti) powder, transition metal (TM) powder, carbon (C) powder, ~~nickel (Ni) powder and cobalt (Co) powder~~ and nickel (Ni) powder or cobalt (Co) powder or both Ni powder and Co powder;

synthesizing a nano-composite powder of (Ti, TM)C-(Ni, Co) through a high energy ball-milling of previously said powder mixture by putting into a milling jar together with balls with a fixed diameter;

and compacting and sintering said synthesized composite powder.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nicholas A. Smith whose telephone number is (571)-272-8760. The examiner can normally be reached on 8:30 AM to 5:00 PM, Monday through Friday.

7. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571)-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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8. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

NAS

ROY KING 
SUPERVISORY PATENT EXAMINER
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